

Listing of Claims:

Claims 1-6 (canceled)

Claim 7 (currently amended; the text below replaces the prior amendment to claim 7 in the June 15, 2005 Amendment): A toothbrush according to claim [[1]] 31 wherein said predetermined threshold level of force in the range of about two to twelve ounces.

Claim 8 (original): A toothbrush according to claim 7 wherein said predetermined threshold level of force is about six ounces.

Claim 9 (canceled)

Claim 10 (withdrawn): A toothbrush according to claim 9 wherein said hinge further comprises at least one connecting element coupling said handle and said head.

Claim 11 (withdrawn): A toothbrush according to claim 9 wherein said spring element is a bi-stable spring having a separate first and second positions corresponding respectively to said first and second orientations of said head with respect to said handle, said bi-stable spring, when said force exceeding said threshold is applied to said head, snaps said head to said second orientation and maintains said head at said second orientation until said head is manually pushed forward until said spring snaps said head back to said first orientation.

Claim 12 (currently amended and withdrawn): A toothbrush according to claim 9 wherein said threshold level of force is substantially the same for causing said bi-stable spring to snap from its first position to its second position and for causing said bi-stable spring to snap from its second position to its first position.

Claim 13 (withdrawn): A toothbrush according to claim 1 wherein said handle and head comprise a single continuous molded product.

Claims 14-18 (canceled)

Claim 19 (withdrawn): A toothbrush according to claim 9 wherein said hinge comprises a pre-stressed bi-stable spring having two alternative shapes, said spring in its prestressed state being generally stiff and tending to stay in such state until a force exceeding a predetermined threshold level is applied to said spring which causes it to

snap to its other shape, said spring coupled to said head and to said handle, whereby said head automatically pivots to its second orientation when a force exceeding said threshold level force is applied thereto.

Claim 20 (withdrawn): A toothbrush according to claim 19 wherein said head automatically returns to its first orientation when a force exceeding said threshold force is applied to said head in said first direction.

Claim 21 (withdrawn): A toothbrush according to claim 20 wherein said handle has a central longitudinal axis, and said bi-stable spring comprises a central strip generally parallel to said handle axis and two tension strips adjacent and generally parallel to said central strip, said central strip being resilient and in compression and having a bow configuration.

Claim 22 (withdrawn): A toothbrush according to claim 20 wherein each of said tension strips is bendable in the general area of their connection to said head.

Claim 23 (withdrawn): A toothbrush according to claim 19 wherein said hinge comprises a bi-stable spring formed as an elongated resilient dish-shaped element having a generally concave configuration and a pair of tension strips adjacent and generally parallel to said spring element, said spring element being in compression with its distal end rigidly extending from said head.

Claim 24 (withdrawn): A toothbrush according to claim 23 wherein each of said tension strips is bendable in the general area of its connection to said head.

Claim 25 (currently presented; the text below replaces the intended amendment to claim 25 in the June 15, 2005 Amendment): A toothbrush according to claim [[1]] 31 wherein said hinge comprises a yoke at said distal end of said handle, a tongue at said proximal end of said head, a pivot axis extending through said yoke and tongue, whereby said head is movable between two angular positions, said hinge further comprising restraining means releasably restraining said tongue in at least one of said positions relative to said yoke.

Claim 26 (withdrawn): A toothbrush comprising a handle, a head with bristles and a neck interconnecting said handle and said head in a predetermined first angular relationship, said head being bendable relative to said handle about a bend axis in

said neck, said neck having a predetermined stiffness wherein said neck resists bending of said head relative to said handle, said neck being bendable about said bend axis to a second angular relationship different from said first angular relationship and back again when a force is applied to said head that overcomes said stiffness of said neck.

Claims 27-30 (canceled)

Claim 31 (previously presented): A motorless toothbrush comprising:

a- a handle part having proximal and distal ends and a longitudinal axis therebetween,

b- a head part having proximal and distal ends, a longitudinal axis therebetween and a set of bristles at said distal end, said bristles having exposed tip ends extending in a frontward direction,

c- a hinge connecting said distal end of said handle part to said proximal end of said head part,

said head part having a first orientation with respect to said handle part for toothbrush to be used in a normal state with said bristles extending generally transversely of the longitudinal axis of said head part,

said hinge including catch means for releasably holding said head part in said first orientation,

said catch means adapted to release said head part on application of a force exceeding a predetermined threshold level in a rearward direction onto said tip ends of said bristles and transferred to said head part, at which time said released head part can flop freely in various orientations different from said first orientation.

Claim 32 (previously presented). A toothbrush according to claim 31 wherein said released head part is manually movable back to said first orientation, at which time said catch means will automatically engage and releasably hold said head part in said first orientation.

Claim 33 (previously presented). A toothbrush according to claim 32 wherein said catch means comprises a spring-biased detent on one of said handle and head parts and a recess into which said spring-biased detent extends in the other of said

handle and head parts.

Claim 34. (previously presented) A toothbrush according to Claim 31 wherein said head part is connected to said handle part only by said hinge.

Claim 35 (previously presented): A motorless toothbrush comprising:

a- a handle part having proximal and distal ends and a longitudinal axis therebetween,

b- a head part having proximal and distal ends, a longitudinal axis therebetween and a set of bristles at said distal end, said bristles having exposed tip ends extending in a frontward direction,

c- a hinge connecting said distal end of said handle part to said proximal end of said head part, with said head part connected to said handle part only by said hinge,

said head part having a first orientation with respect to said handle part for use as a normal toothbrush with said bristles extending generally transversely of the longitudinal axis of said head part, and a second orientation angled rearward from said first orientation,

said hinge comprising a bi-stable spring element having first and second conditions causing said head part to flip between said first and second orientations respectively;

said bi-stable spring element adapted to urge said head part to move to and remain in one or the other of said two orientations, said bi-stable spring element flipping from said first condition to said second condition upon application of a force (i) exceeding a predetermined threshold level in a rearward direction onto said tip ends of said bristles and (ii) transferred to said head part, at which time said head part is biased by spring means to flip to and remain in said second orientation.

Claim 36 (previously presented) A toothbrush according to Claim 35 where said second orientation is angled at least 10 degrees rearward from said first orientation.

Claim 37 (previously presented) A toothbrush according to Claim 35 wherein said head part is manually movable from said second orientation, upon application of

a force exceeding a predetermined threshold level to said head part in said forward direction to said first orientation, at which time said head part would be biased by said spring element to flip to and remain in said first orientation.

Claim 38 (previously presented): A method of reducing the risk of damaging tooth enamel and gums from brushing of a person's teeth with a toothbrush, comprising:

a- providing a motorless toothbrush including a handle part having proximal and distal ends and a longitudinal axis therebetween, and a head part having proximal and distal ends, a longitudinal axis therebetween and a set of bristles at said distal end and extending generally transversely of the longitudinal axis of said head part, said bristles having exposed tip ends extending in a frontward direction,

b- providing a hinge connecting said distal end of said handle part to said proximal end of said head part,

said head part having a first orientation with respect to said handle part for said toothbrush to be used in a normal state with said bristles extending generally transversely of the longitudinal axis of said head part,

c- providing on said hinge a catch means for releasably holding said head part in said first orientation, and

d- configuring said hinge such that upon application of a force (i) exceeding a predetermined threshold level in a rearward direction onto said tip ends of said bristles and (ii) transferred to said head part, said catch means will release said head part to flop freely in various orientations different from said first orientation.

Claim 39 (previously presented): A method of teaching a person how to avoid applying pressure of an unsafe magnitude to teeth and gums while brushing the person's teeth with a toothbrush, comprising:

a- providing a motorless toothbrush including a handle part having proximal and distal ends and a longitudinal axis therebetween, and a head part having proximal and distal ends, a longitudinal axis therebetween and a set of bristles at said distal end and extending generally transversely of the longitudinal axis of said head part, said bristles having exposed tip ends extending in a frontward direction,

b- providing a hinge connecting said distal end of said handle part to said proximal end of said head part,

said head part having a first orientation with respect to said handle part for toothbrush to be used in a normal state with said bristles extending generally transversely of the longitudinal axis of said head part,

c- providing on said hinge a catch means for releasably holding said head part in said first orientation, and

d- configuring said hinge such that upon application of a force (i) exceeding a predetermined threshold level in a rearward direction onto said tip ends of said bristles and (ii) transferred to said head part, said catch means will release said head part to flop freely in various orientations different from said first orientation.

Claim 40 (previously presented): A method of reducing the risk of damaging tooth enamel and gums from brushing of a person's teeth with a toothbrush, comprising:

a- providing a motorless toothbrush including a handle part having proximal and distal ends and a longitudinal axis therebetween, and a head part having proximal and distal ends, a longitudinal axis therebetween and a set of bristles at said distal end and extending generally transversely of the longitudinal axis of said head part, said bristles having exposed tip ends extending in a frontward direction,

b- providing a hinge connecting said distal end of said handle part to said proximal end of said head part, with said head part connected to said handle part only by said hinge,

said head part having a first orientation with respect to said handle part for toothbrush to be use as a normal toothbrush with said bristles extending generally transversely of the longitudinal axis of said head part, and a second orientation angled rearward from said first orientation,

c- forming said hinge as a bi-stable spring element having first and second conditions causing said head part to flip between said first and second orientations respectively, and

d- configuring said bi-stable spring element to urge said head part to move to and remain in one or the other of said two orientations, said bi-stable spring element flipping from said first condition to said second condition upon application of a force (i) exceeding a predetermined threshold level in a rearward direction onto said tip ends of said bristles and (ii) transferred to said head part, at which time said head part is biased by spring means to flip to and remain in said second orientation.

Claim 41 (new): A motorless toothbrush comprising:

a- a handle part having proximal and distal ends and a longitudinal axis therebetween,

b- a head part having proximal and distal ends, a longitudinal axis therebetween and a set of bristles at said distal end, said bristles having exposed tip ends extending transversely of said head part's longitudinal axes in a frontward direction,

c- a hinge connecting said distal end of said handle part to said proximal end of said head part,

said head part being pivotable about said hinge between first and second orientation relative to said handle part,

said hinge including catch means for releasably holding said head part in said first orientation,

said catch means adapted to release said head part to move from said first to said second orientation upon an application of force exceeding a predetermined threshold level in a rearward direction onto said tip ends of said bristles and transferred to said head part, said catch further adapted to releasably restrain said head part in said second orientation,

said head part in said first orientation having its longitudinal axis generally aligned with said longitudinal axis of said handle part,

said head part in said second orientation having its longitudinal axis inclined rearward of said handle's longitudinal axis by at least 10°.

Claim 42 (new): A motorless toothbrush according to claim 41 wherein said head part's longitudinal axis in said second orientation is inclined rearward of said handle's longitudinal axis by about 20°.

Claim 43 (New): A motorless toothbrush according to claim 41 wherein said predetermined threshold level of force is in the range of about 2 to 12 ounces.

Claim 44 (New): A motorless toothbrush according to claim 41 wherein said force is about six ounces.

Claim 45 (New): A motorless toothbrush according to claim 41, wherein said catch means comprises a resilient spring element extending from one of said handle and head parts and releasably engaging the other.